

IN THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the instant application. The present status of each claim is indicated in parentheses following the claim number. An instruction line precedes each claim that is amended, cancelled, or added by the instant paper.

1-41 (CANCELLED)

Please **amend** claim 42 as follows:

42. (CURRENTLY AMENDED) ~~The~~An isolated or purified
nucleic acid ~~of claim 43, wherein said~~
~~nucleotide~~encoding a polypeptide having the amino acid
sequence is nucleotides 13-1314 of SEQ ID NO:3-4, said
amino acid sequence comprising at least one
immunogenic epitope.

Please **amend** claim 43 as follows:

43. (CURRENTLY AMENDED) ~~A~~The nucleic acid comprising a
~~nucleotide sequence encoding a polypeptide having the~~
~~amine~~of claim 42, wherein said nucleic acid
sequence comprises nucleotides 13-1314 of SEQ ID NO:4,

~~said amino acid sequence comprising at least one
immunogenic epitope.3.~~

Please **amend** claim 44 as follows:

44. (CURRENTLY AMENDED) The nucleic acid of ~~claim~~
~~43,~~claim 42, wherein said nucleic acid is an isolated
nucleic acid.

Please **amend** claim 45 as follows:

45. (CURRENTLY AMENDED) The nucleic acid of ~~claim 43~~claim
42 further comprising an expression control sequence
operably linked to said nucleotide sequence.
46. (PREVIOUSLY AMENDED) The nucleic acid of claim 45,
wherein said expression control sequence comprises a
promoter.
47. (PREVIOUSLY AMENDED) The nucleic acid of claim 45,
wherein said expression control sequence comprises an
enhancer.

Please **amend** claim 48 as follows:

48. (CURRENTLY AMENDED) A method of preparing a polypeptide comprising a carboxy-terminal portion of the heavy chain of botulinum neurotoxin serotype A comprising at least one immunogenic epitope, comprising:
- transfecting a cell with a nucleic acid ~~having a~~
~~nucleotide sequence~~ encoding a polypeptide having the amino acid sequence of SEQ ID NO:4, said amino acid sequence comprising at least one immunogenic epitope; and
- culturing the transfected cell under conditions wherein the nucleic acid is expressed,
- wherein the cell is selected from the group consisting of a gram negative bacteria, a yeast, and a mammalian cell.
49. (PREVIOUSLY AMENDED) The method of claim 48, further comprising recovering from said transfected cell at least one insoluble polypeptide having the amino acid sequence of SEQ ID NO:4, said amino acid sequence comprising at least one immunogenic epitope.
50. (PREVIOUSLY ADDED) The method of claim 48, wherein said organism is *Escherichia coli*.

51. (PREVIOUSLY ADDED) The method of claim 48, wherein said organism is *Pichia pastoris*.
52. (CANCELLED)

Please **amend** claim 53 as follows:

53. (CURRENTLY AMENDED) A method of ~~preparing~~isolating an immunogenic ~~composition comprising a~~ polypeptide having the amino acid sequence of SEQ ID NO:4, said amino acid sequence comprising at least one immunogenic epitope, comprising:

culturing a cell transfected with an expression vector comprising a nucleic acid ~~having a~~ ~~nucleotide sequence encoding a~~ polypeptide having the amino acid sequence of SEQ ID NO:4, said amino acid sequence comprising at least one immunogenic epitope under conditions wherein the nucleic acid is expressed; and

~~recovering~~isolating from said transfected cell at least one insoluble polypeptide comprising the amino acid sequence of SEQ ID NO:4, said amino

acid sequence comprising at least one immunogenic
epitope,

wherein the cell is selected from the group consisting
of a gram negative bacteria, a yeast, and a mammalian
cell and wherein the recovered polypeptide is
immunogenic.

54. (CANCELLED)

Please **amend** claim 55 as follows:

55. (CURRENTLY AMENDED) The nucleic acid of claim ~~claim~~
~~43,~~claim 42, wherein the AT content is less than about
70% of the total base composition.

56. (PREVIOUSLY AMENDED) The nucleic acid of claim 55,
wherein the AT content is less than about 60% of the
total base composition.

57-81 (CANCELLED)

82. (PREVIOUSLY AMENDED) A recombinant host cell
comprising the nucleic acid of claim 45.

83-84 (CANCELLED)

85. (PREVIOUSLY AMENDED) The recombinant host cell of claim 82, wherein said polypeptide is at least 0.75% (w/w) of the total cellular protein.
86. (PREVIOUSLY AMENDED) The recombinant host cell of claim 85, wherein said polypeptide is at least 20% (w/w) of the total cellular protein.